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| APPLICATION NUMBER | FILING DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO. |
|--------------------|-------------|-----------------------|------------------|
| 08/811,234 | 03/03/97 | SUGIMOTO | H 35.C10048-CI |

MM71/0427

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HARTARY, J.
ART UNIT 3
PAPER NUMBER

2853

DATE MAILED: 04/27/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

Responsive to communication(s) filed on 3/3/98 (CPT REQUEST).
 This action is FINAL.
 Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire THREE month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1, 4-14, 17-22, 25-30, 33-62 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
 Claim(s) _____ is/are allowed.
 Claim(s) 1, 4-14, 17-22, 25-30, 33-62 is/are rejected.
 Claim(s) _____ is/are objected to.
 Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
 The drawing(s) filed on _____ is/are objected to by the Examiner.
 The proposed drawing correction, filed on _____ is approved disapproved.
 The specification is objected to by the Examiner.
 The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 All Some* None of the CERTIFIED copies of the priority documents have been
 received.
 received in Application No. (Series Code/Serial Number) _____
 received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of Reference Cited, PTO-892
 Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
 Interview Summary, PTO-413
 Notice of Draftsperson's Patent Drawing Review, PTO-948
 Notice of Informal Patent Application, PTO-152

-SEE OFFICE ACTION ON THE FOLLOWING PAGES-

BEST AVAILABLE COPY

Art Unit: 2108

1. The request filed on March 13, 1998 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/811,234 is acceptable and a CPA has been established. An action on the CPA follows.

2. Receipt is acknowledged of the facsimile Amendment received April 21, 1998.

3. Claims 1,4-14,17-22,25-30 and 33-62 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims are indefinite because they are incomplete. Claim 1,4-13, 21,22,25-29,30,33-35, 37-52,53-60,61 and 62 are incomplete because they fail to positively recite the plurality of inks as part of the claimed combination. The claims are indefinite because terms used do not have an antecedent basis. For example, Claim 1 calls for an apparatus for forming an image on a recording medium by discharging a plurality of inks from a plurality of ink discharge means, each ink having a penetrability, a dye density, and a color. The plurality of discharge means, the inks and the recording medium are not positively recited elements of the combination and therefore lack proper antecedent basis. Terms, for example, penetrability, low dye density, different dye, more

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penetrability, and high dye density lack antecedent basis in the claims. For example, in Claim 21, the terms plural discharge ports and a plurality of inks lack additionally lack antecedent basis. The claims are also indefinite because they do not recite sufficient structure or steps to support the claimed functions. For example, Claim 14 calls for a method for forming an image on a recording medium by discharging a plurality of inks from a plurality of ink discharge means. The claim is incomplete in that there are no further steps recited to support the claimed functions.

4. Claims 1,4-14,17-22,25-30 and 33-36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims have been amended to recite the plurality of inks contain different component ratios of a surface active component, wherein an ink having a relatively high dye density has a lower component ratio of said surface active component than an ink having a relatively low dye density. Such inks are not described in the specification.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1,4-14,17-22,25-30 and 33-35 are rejected under 35 U.S.C. § 103 as being unpatentable over Matsumoto 4,860,026 in view of Suzuki 4,551,736 and Sugimoto 5,477,248. Matsumoto discloses (Figure 9) an ink jet apparatus for forming an image on recording medium 51 by using a plurality of ink discharge means 58-1 - 58-10 having a plurality of inks with different dye densities (thin, mid, thick). The claims further recite the penetrability of inks having different dye densities is different, and the ink having low dye density has superior penetrability to the ink having high dye density on the medium. Suzuki discloses ink jet inks with different dye densities can have different amounts of solvent and therefore different penetrability. Sugimoto discloses the use of different penetrability for inks in ink jet recording. It would have been obvious that the Matsumoto recording apparatus could have a plurality of inks with the penetrability claimed as a matter of forming images in a manner suggested by Suzuki and Sugimoto. The

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surface active components are suggested by Suzuki and Sugimoto. The ink jet method of Claims 14-20 are suggested by the cited references.

7. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto 4,860,026 in view of Matsumoto 4,860,026 in view of Suzuki 4,551,736 and Sugimoto 5,477,248. This claim calls for a recording medium and a plurality of inks adhering thereto, each of the inks having different dye densities and same colors having different penetrabilities. Matsumoto shows a recording medium 51 having a plurality of inks adhering thereto. Each of the inks before recording having different dye densities for different colors. The claimed recorded medium is considered prima facie obvious over the recorded medium 51 of Matsumoto. Penetrabilities and surface active active components are considered ink expedients as evidenced by Suzuki and Sugimoto. A recorded medium having such inks would also have been prima facie obvious.

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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9. Claim 36 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A recorded article comprising a recording medium and a plurality of inks adhering thereto is considered printed matter. MPEP 706.03 (a) .

10. Claim 36 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not provide evidence that the plurality of adhering inks have the same claimed properties, that is, that the solidified inks adhering to the recording medium have the same properties as the liquid inks in the recording head.

11. Claims 37-62 are rejected under 35 U.S.C. § 103 as being unpatentable over Matsumoto 4,860,026 in view of Suzuki 4,551,736, Sugimoto 5,477,248, and Sekiya JP 1-242256. Matsumoto discloses (Figure 9) an ink jet recording apparatus having a plural ink discharge means 58-1 to 58-10 using a plurality of inks. It would have been obvious to further use inks with different penetrabilities as evidenced to be old by Suzuki and Sugimoto. The claims further recite the plural inks

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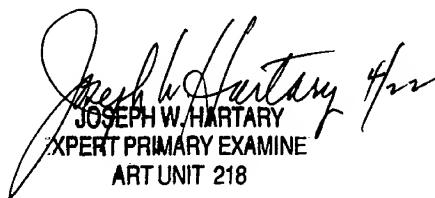
are divided and held in the same container. Sekiya teaches plural ink held in a divided container is known. It would have been obvious to modify the Matsumoto ink-jet apparatus with a divided ink container, a feature suggested to be known by Sekiya, for the purpose of containing the inks in a known alternative manner.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sugitani 4,611,219 discloses an ink-jet recording apparatus (Figure 1) having a head which is divided for two inks. Suzuki 4,855,762 discloses a divided ink container 2 (Figure 3). Iwata 5,245,362 discloses (Figure 23) information processing in an ink-jet recording apparatus.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph W. Hartary whose telephone number is (703) 308-3124.

JWH
April 22, 1998


JOSEPH W. HARTARY
EXPERT PRIMARY EXAMINE
ART UNIT 218